

REQUEST FOR RECONSIDERATION

Claims 15 – 25 are active.

The claimed invention provides a process for preparing an aqueous polyurethane dispersion, comprising:

preparing a polyurethane in the presence of N-ethylpyrrolidone or N-cyclohexylpyrrolidone; and

dispersing the prepared polyurethane in an aqueous medium,
wherein

the polyurethane comprises at least one component having at least one hydrophilic group or a group which can be converted to a hydrophilic group, and is dispersible in water.

The rejection of Claims 15-25 under 35 U.S.C. 103(a) over Bruchmann et al. (DE 10161156; equivalent to U.S. 2005/0043467) in view of Galan et al. (U.S. 4,757,095) is respectfully traversed.

Bruchmann describes an aqueous dispersion of a water dispersible polyurethane and a process for preparing the aqueous dispersion involving reacting the monomers in the presence of a cesium salt.

The cesium salts are preferably added in dissolved form in suitable solvents [0079] and solvents are useful to ensure a low viscosity [0080]. Bruchmann describes two polyurethane preparation methods: 1) acetone process [0083] and 2) prepolymer process [0083-0084].

The Office has alleged that the two methods do not require the same solvents (Official Action dated June 16, 2010, page 3, last paragraph) and implies that the acetone process requires a larger amount of solvent. Applicants respectfully submit that there is no technical

support for such an interpretation as catalyst solubility and viscosity requirements would require solvent in both processes.

Bruchmann indicates that if a solvent is used, it should have a boiling point of from 40 to 100°C. under atmospheric pressure [0081] and that one of ordinary skill in the art would recognize that having a boiling point in the described range would allow for facile removal by distillation under reduced pressure as described for both methods of preparation. Bruchmann describes solvent removal from the dispersion, after the aqueous dispersion is prepared. Further removal to a level of less than 10% is preferred [0085]. Nowhere does Bruchmann disclose or suggest keeping the solvent in low concentration in order to eliminate removal later. Such may render the Bruchmann process unsuitable for preparing the intended dispersion by allowing high viscosity or insufficient dissolved catalyst.

Applicants have shown that the boiling points of N-ethylpyrrolidone and N-cyclohexylpyrrolidone are 97 °C/20mm Hg and 154 °C/7 mm Hg respectively. Therefore, one of ordinary skill in the art would recognize that the claimed components do not have the boiling point properties suggested by Bruchmann. Nowhere does this reference disclose or suggest the addition of N-ethyl- or N-cyclohexylpyrrolidone to the preparation of the prepolymer mixture.

The Office speculates that one of ordinary skill would employ less than 10% of N-ethylpyrrolidone in a prepolymer aqueous process according to Bruchmann based on the description of Galen which is directed to a non-aqueous process and based on a skilled artisan's recognition that since Bruchmann describes solvent distillation to a level less than 10%.

Applicants submit that as described above, Bruchmann requires solvent to dissolve the catalyst and to maintain a low viscosity and therefore, the suggestion made by the Office cannot be based on rational logic.

Applicants note that in reversing an obviousness rejection in *Ex parte* SUSUMU TANAKA and YASUO MURAKAMI (Appeal 2007-3845; Decided: March 28, 2008) the Board of Patent Appeals and Interferences stated:

In order to establish a prima facie case of obviousness, the Examiner must show that each and every limitation of the claim is described or suggested by the prior art or would have been obvious based on the knowledge of those of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)(Bold added for emphasis)

Galan is directed to a non-aqueous technology (microcellular foam systems) employing polymers not specifically composed to be water dispersible and therefore does not describe or suggest a method for preparing an aqueous dispersion. Nowhere does this reference disclose that the polyurethane is water dispersible nor is there any suggestion regarding water dispersibility of the polymer composition.

Applicants submit that the Office has mistakenly interpreted the Bruchmann description and alleged running the reaction at less 10% N-ethyl- or N-cyclohexylpyrrolidone with no support from either cited reference. However, in hindsight of the present invention the Office alleges such a process is obvious.

When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than hindsight gleaned from the invention itself. *Interconnect Planning Corp.* 774 F.2d, 1143, 227 USPQ 551.

Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Co.* 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)

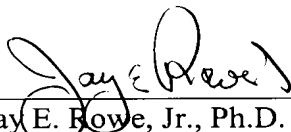
Applicants respectfully submit that only in hindsight, in view of the claimed invention, would one of ordinary skill in the art combine the cited references. The Office has not provided any reasonable explanation of how or why one of ordinary skill in the art would have combined the cited references to obtain the claimed invention, at the time of the present invention.

In view of all the above, Applicants respectfully submit that the cited combination of references does not describe the elements of the present invention and therefore a conclusion of obviousness cannot be supported. Accordingly, withdrawal of the rejection of Claims 15-25 under 35 U.S.C. 103(a) over Bruchmann in view of Galan is respectfully requested.

Applicants respectfully submit that the above-identified application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Jay E. Rowe, Jr., Ph.D.
Registration No. 58,948

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/07)